

# INDEX

## TO THE

# MATHEMATICAL GAZETTE

No. 283, FEBRUARY, 1945—No. 287, DECEMBER, 1945.

1. Articles.
2. Mathematical Notes.
3. Reviews and Notices.
4. News of Branches.
5. Gleanings Far and Near.
6. Obituary Notices.
7. Correspondence.
8. Miscellaneous.

### ARTICLES.

AUTHOR.	TITLE.	PAGE.
A. Barton.	Differentials from a new viewpoint.	193
J. H. Cadwell.	Simple nomograms.	203
C. T. Lear Caton.	A fresh approach to the mathematical curriculum in schools.	109
T. K. Chaplin.	Methods of constructing ellipses and parabolae.	12
X. Chater and W. J. Chater.	A note on pan-magic squares.	92
C. A. Coulson.	Some difficulties in teaching the <i>D</i> method in linear differential equations.	200
J. Deans.	The mathematical theory of the influence of thin films on the reflection and transmission of light.	57
M. F. Egan.	Symmetric matrices and quadratic forms.	89
A. P. Guinand.	An asymptotic series for computing $\pi$ .	214
J. Hadamard.	On the three-cusped hypocycloid.	66
G. H. Livens.	Note on the motion of a body whose mass is changing.	10
J. P. McCarthy.	The limaçon and the cardioid.	219
X. W. McLachlan.	Hill's differential equation.	68
F. B. Pidduck.	Amplitude of triode oscillations.	206
A. P. Rollett.	Mathematical models and constructions.	181
T. Sharp.	Harmonic polygons.	210
C. O. Tuckey.	Presidential address, 1945. Teachers and examiners.	49
F. Underwood.	Stability of equilibrium.	104
P. Vermes.	Geometric representation of analytic functions.	4
G. N. Watson.	Two tripos questions.	221
Sir Edmund Whittaker.	Eddington's theory of the constants of nature.	137
Technical mathematics.		145

#### Discussion :

H. V. Lowry (p. 145) ; N. W. McLachlan (p. 148) ; H. A. Hayden (p. 151) ;  
W. F. Bushell (p. 152) ; W. G. Bickley (p. 152) ; L. W. F. Elen (p. 154) ; A. D.  
Booth (p. 155) ; E. E. Ironmonger (p. 156) ; R. A. Fairthorne (p. 156) ; K. J.

1221045

	PAGE.
Beane (p. 157); J. F. Hudson (p. 157); A. J. Hatley (p. 157); G. A. Garreau (p. 158); H. V. Lowry (p. 158); N. W. McLachlan (p. 159); E. H. Neville (p. 160)	
Syllabuses for examinations taken by Sixth-form pupils.	161
Discussion :	
K. S. Snell (p. 161) ; E. A. Maxwell (p. 163); J. L. Brereton (p. 165); C. O. Tuckey (p. 168); C. V. Durell (p. 168); Miss K. S. Chamberlain (p. 170); Miss E. E. Wolstenholme (p. 171); Miss I. W. Busbridge (p. 171); C. O. Tuckey (p. 171); K. L. Wardle (p. 172); J. W. Ashley Smith (p. 172); K. J. Beane (p. 173); Mrs. E. M. Williams (p. 173); A. Barton (p. 173); F. C. Powell (p. 174); W. Hope-Jones (p. 175); C. O. Tuckey (p. 175); K. S. Snell (p. 175); E. A. Maxwell (p. 176); J. L. Brereton (p. 176); C. V. Durell (p. 176); Miss K. W. McIntosh (p. 177); R. Sibson (p. 177); Miss P. M. Pickford (p. 177); P. J. Daniell (p. 177); T. D. Morris (p. 177).	
General Meeting of the Mathematical Association, 1945.	45
Joint Report of the Council and the Executive Committee for 1944.	46

## MATHEMATICAL NOTES.

AUTHOR.	No.	TITLE.	PAGE.
R. H. Birch.	1802	Approximations to roots and logarithms.	21
	1803	Approximations by partial fractions.	21
L. Crawford.	1849	On Notes 1691, 1692.	234
R. H. Dick.	1813	Pythagoras' theorem.	70
A. W. Gent.	1841	The number of solutions of $x^2 + y^2 = z$ .	129
M. E. J. Gheury de Bray.	1812	A convenient value of $\pi$ .	27
N. M. Gibbins.	1828	Note on Dr. Maxwell's article (XXVIII, p. 51).	118
R. L. Goodstein.	1797	Transport problems.	16
	1816	Mental multiplication.	71
	1838	Examination questions.	125
	1845	Find the penny.	227
G. H. Grattan-Guinness.	1818	On Note 1717.	72
D. A. Grenfell.	1832	Centre of pressure.	123
W. G. Guthrie.	1830	Illustration for $x^0 = 1$ .	121
G. H. Hardy.	1844	A mathematical theorem about golf.	226
H. N. Haskell.	1814	The complete quadrilateral.	70
S. G. Horsley.	1827	A geometrical construction for the triangle in Note 1740.	118
L. W. H. Hull.	1831	"A minus and a minus make a plus."	121
H. Jeffreys.	1837	Teaching of geometry and statistics.	125
G. H. Jones.	1839	A note on the cycloid.	128
H. Langdon-Davies.	1833	On Note 1737.	123
B. E. Lawrence.	1799	A circle connected with a triangle.	18
E. P. Lewis.	1842	On Note 1727: extension of Simson's line.	178
H. V. Lowry.	1800	Check numbers.	19
	1801	On Notes 1542, 1610, 1684	20
	1848	Approximation to the roots of an equation.	233
R. D. Lyness.	1847	Cycles.	231
H. V. Mallison.	1810	A theorem from the general equation of the conic.	26
	1811	An irrational equation.	26
F. G. Maunsell.	1817	On Note 1730.	72

# INDEX

V

PAGE.	AUTHOR.	No.	TITLE.	PAGE.
	S. Melmore.	1840	Rotating rings of tetrahedra.	129
	E. H. Neville.	1806	A puzzle in notation.	24
161		1807	A simple interpolation formula.	24
		1808	On Note 1719: Pythagorean angles.	25
		1828	Indefinite integration by means of contours.	81
		1843	On Notes 1542, 1610, 1684, 1801.	225
	E. G. Phillips.	1821	On "bending momentum round corners".	77
	M. A. Porter.	1822	A point in teaching dynamics.	79
	L. E. Prior.	1820	A note on a cubic and an associated family of conics.	75
	A. Robson.	1834	On Note 1753 (Asymptotes).	124
		1835	On Note 1758 (Director Circle).	124
45	L. Sadler.	1794	On a tripos question.	15
46	A. W. Siddons.	1795	Trisection of an angle.	15
		1798	What is a trapezium?	17
	H. Simpson.	1819	Some properties of plane cubic curves.	74
	C. A. B. Smith.	1829	Further notes on elliptic function theory.	119
PAGE.	B. A. Swinden.	1826	Approximate rectification of the circle.	83
21	O. Taussky.	1793	On Note 1712.	15
21	V. Thébault.	1796	Sur le tétraèdre podaire.	15
234		1823	Curiosités arithmétiques.	80
70		1824	Sur une généralisation du théorème de l'orthopôle.	80
129	C. O. Tuckey.	1804	Cotangent theorems.	22
27		1805	Exponential and logarithmic functions.	23
118	A. G. Walker.	1809	On Note 1719.	26
16	P. C. Wickens.	1836	A problem in probability.	124
71	L. P. Wood.	1815	The pedal lines of a given point.	71
125	C. E. Wright.	1846	Solution of linear differential equations with constant coefficients.	230
227				

## REVIEWS AND NOTICES.

	AUTHOR.	TITLE.	REVIEWER.	PAGE.
123	S. W. Amos and F. W. Kellaway.			
121		Radio receivers and transmitters.	N. W. McLachlan.	43
226	C. W. C. Barlow and G. H. Bryan.			
70		Elementary mathematical astronomy. (5), revised by Sir Harold Spencer Jones.	A. Hunter.	39
118	H. Brandenburg.	Sechsstellige Trigonometrische Tafel. (1, rep.).	T. A. A. B.	133
121				
125	G. H. Bryan.	See C. W. C. Barlow.		
128	M. Davidson.	From atoms to stars.	A. Hunter.	85
123	F. Emde.	Tables of elementary functions. (1, rep.).	T. A. A. B.	133
18		See also E. Jahnke.		
178	R. J. Gillings.	A note book on graphs.	A. W. Siddons.	240
19	S. L. Green.	An introduction to differential equations.	L. Roth.	38
20	H. F. Hemstock.	Exercises in practical business arithmetic.	E. J. Atkinson.	88
233	G. Hoyland.	The tyranny of mathematics.	H. W. Turnbull.	84
231	P. Humbert.	See N. W. McLachlan.		
26	E. Jahnke and F. Emde.			
26		Tables of functions with formulae and curves. (New U.S. edition.)	T. A. A. B.	40
72				

AUTHOR.	TITLE.	REVIEWER.	PAGE.
Sir James Jeans.	The astronomical horizon.	<i>W. H. McCrea.</i>	179
Sir Harold Spencer Jones.			
	<i>See C. W. C. Barlow.</i>		
F. W. Kellaway.	<i>See S. W. Amos.</i>		
M. Kraitchik.	Mathematical recreations.	<i>T. A. A. B.</i>	39
H. Levy and E. E. Preidel.			
	Elementary statistics.	<i>F. Sandon.</i>	41
J. E. Littlewood.	Lectures on the theory of functions.	<i>R. Rado.</i>	236
Sir Henry Lyons.	The Royal Society, 1660-1940.	<i>H. C. Plummer.</i>	36
N. W. McLachlan et P. Humbert.			
	Formulaire pour le Calcul symbolique.	<i>T. A. A. B.</i>	241
K. Menger.	Algebra of analysis.	<i>R. L. Goodstein.</i>	238
O. Morgenstern.	<i>See J. von Neumann.</i>		
J. von Neumann and O. Morgenstern.			
	Theory of games and economic behaviour.	<i>C. A. B. Smith.</i>	131
W. T. Pratt.	Worked examples in electrotechnology.	<i>G. F. Nicholson.</i>	131
E. E. Preidel.	<i>See H. Levy.</i>		
A. Robson.	The earth and the sky.	<i>A. P. Rollett.</i>	240
T. L. Smith.	<i>See W. J. Sternberg.</i>		
W. J. Sternberg and T. L. Smith.			
	The theory of potential and spherical harmonics.	<i>E. T. Copson.</i>	34
G. N. Watson.	A treatise on the theory of Bessel functions. (2).	<i>T. A. A. B.</i>	37
Table of reciprocals of the integers from 100,000 through 200,009.		<i>J. C. P. Miller.</i>	29
Table of the Bessel functions $J_0(z)$ and $J_1(z)$ for complex arguments.		<i>J. C. P. Miller.</i>	29
Tables of Lagrangian interpolation coefficients.		<i>J. C. P. Miller.</i>	29
Table of circular and hyperbolic tangents and cotangents for radian arguments.		<i>J. C. P. Miller.</i>	86
Tables of circular and hyperbolic sines and cosines for radian arguments.		<i>J. C. P. Miller.</i>	86
Tables of sines and cosines for radian arguments.		<i>J. C. P. Miller.</i>	86
Five-figure logarithm tables containing logarithms of numbers and logarithms of trigonometrical functions with argument in degrees and decimals.		<i>T. A. A. B.</i>	41

## BRANCHES.

Birmingham Junior Branch.	Report for 1944-5.	179
Leeds.	Report for 1944.	44
London.	Reports of meetings.	242
Manchester.	Report for 1944-5.	242
Midland.	Report for 1944-5.	242
New South Wales.	Report for 1944.	56
North-Eastern.	Report of meeting.	28
Queensland.	Report for 1944-5.	243
Southampton.	Notice of resumption.	243
Victoria.	Report for 1944.	244

# INDEX

vii

## GLEANINGS FAR AND NEAR.

PAGE.  
179

PAGE.	No.	PAGE.	No.	PAGE.	No.
48	1452	108	1459	209	1468-70
56	1453	117	1460-1	213	1471
65	1454	144	1462	218	1472
67	1455	160	1463-4	224	1473
91	1456-7	177	1465	235	1474-5
103	1458	199	1466	241	1476
		202	1467		

## OBITUARY NOTICES.

PAGE.

Sir Percy Nunn (C. O. Tuckey ; H. A. Thompson)	1
Sir Arthur Eddington	3

## CORRESPONDENCE.

PAGE.

B. M. Brown.	Mathematical models.	192
C. V. Durell and A. Robson.	The integral definition of the logarithm.	134
F. W. Harvey.	[Some geometrical proofs.]	83
O. Madden.	Textbooks as teachers.	136
A. S. Ramsey.	[William Welsh.]	134
A. P. Rollett.	Poet's corner.	136

## MISCELLANEOUS.

PAGE.

Annual General Meeting, 1945.	4
Notice of Annual General Meeting, 1946.	48
Bureau for the solution of problems.	48
"The Australian Mathematics Teacher."	235